4.115 Intercharacter Spacing Property (Form 18)

The intercharacter spacing is used to specify the gap between letters when fixed-pitch spacing is used. It is applicable to text generated by the General Note and Text Template Entities. The gap is specified as a percentage of the text height. The percentage may be positive, negative, or zero.

ECO702 Figure 136 shows several examples of the General Note Entity (Type 212) with different values of intercharacter spacingarranged as two groups. In both groups, from top to bottom, they represent system default (no property used), 75% and 0%. Note that the default spacing for systems may be different for each FC or for individual characters.

The top group illustrates text box width (WT) adjustment so as to maintain the character aspect ratio. The bottom group illustrates the effect on character aspect ratio when the text box width is maintained, *i.e.,* only the value of the property is changed. Note that the text box width as specified for the General Note Entity does not permit a trailing intercharacter space, so in the bottom group the last character of each text string aligns to the same text box width even though the intercharacter spacing changes.

Let CH, CW, and CS represent character height, character width, and intercharacter spacing. Let HT, WT, and NC represent text box height, text box width, and the number of characters in the text string. For fixed-pitch systems, the following relationships are implied:

```
WT = (CW*NC) + (CS*(NC-1))

CS = (WT-(CW*NC)) / (NC-1)

CW = (WT-(CS*(NC-1))) / NC
```

In other words, text box width is a function of the character width, the number of chacters, and $NC - 1$ spaces. Intercharacter spacing can have an effect on character width if text box width is constrained. Therefore, intercharacter spacing is defined as a function of text box height because both text box height and character height remain constant even if characters are added to or deleted from a text string. (WT is a function of NC and CW, and CW is represented as a function of CH in most systems.) This implies the reciprocal relationships:

```
ISPACE = 100.0 * (CS/CH)

CS = CH * (ISPACE/100.0)
```

These equations can be used by both preprocessors and postprocessors to calculate approriate values in permit the receiving system to preserve the sending system's intercharacter spacing and character aspect ratio.

Directory Entry

Number and Name	Value
(1) Entity Type Number	406
(3) Structure	$< n.a. >$
(4) Line Font Pattern	$< n.a. >$
(5) Level	$\#, \Rightarrow$
(6) View	$< n.a. >$
(7) Transformation Matrix	$< n.a. >$
(8) Label Display Assoc.	$< n.a. >$
(9a) Blank Status	**
(9b) Subord. Ent. Switch	??
(9c) Entity Use Flag	**
(9d) Hierarchy	**
(12) Line Weight Number	$< n.a. >$
(13) Color Number	$< n.a. >$
(15) Form Number	18

Note: The Level shall be ignored if this property is subordinate (see Sections 4.98 and 1.6.1).

Parameter Data

Index	Name	Type	Description
1	NP	Integer	Number of property values (NP = 1)
2	ISPACE	Real	Intercharacter Space in percent of text height (Range 0.0 to 100.)

Additional pointers as required (see Section 2.2.4.5.2).

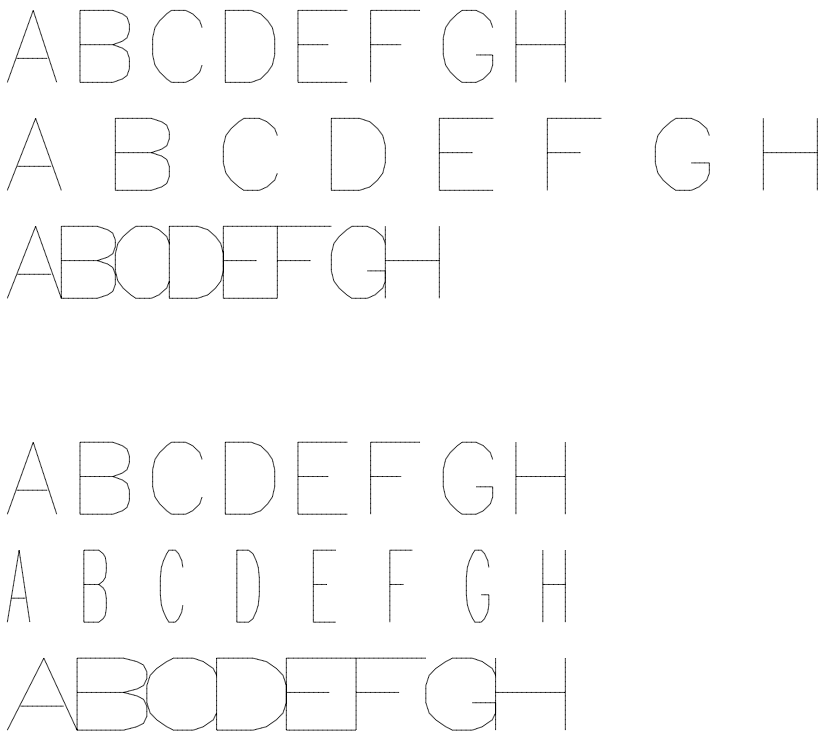

Figure 136. `F40618X.IGS` - Examples Defined Using the Intercharacter Spacing Property